

**REMARKS**

Claims 1-12 are currently pending. No claim amendments are made in this Reply.

Applicant respectfully requests reconsideration and withdrawal of the following 35 U.S.C. § 103(a) rejections:

- The rejection of claims 1-3, 6, and 11 based on JP 09-155583 to Oota et al. ("Oota") in view of U.S. Patent No. 5,837,960 to Lewis et al. ("Lewis") and DE 19909390 to Nowotny et al. ("Nowotny") (Office Action at 2)
- The rejection of claim 4 based on Oota, Lewis, and Nowotny in view of U.S. Patent No. 6,838,638 to Satou et al. (*Id.* at 4)
- The rejection of claim 5 based on Oota, Lewis, and Nowotny in view of JP 2891378 to Mihashi (*Id.* at 5);
- The rejection of claim 7 based on Oota, Lewis, and Nowotny in view of U.S. Patent No. 6,717,106 to Nagano et al. (*Id.* at 5, 6)
- The rejection of claim 8 based on Oota, Lewis, and Nowotny in view of U.S. Patent Publication No. 2002/0003132 to Scalzotto (*Id.* at 6)
- The rejection of claims 9 and 10 based on Oota, Lewis, and Nowotny in view of U.S. Patent No. 5,571,430 to Kawasaki et al. (*Id.* at 7)
- The rejection of claim 12 based on Oota, Lewis, and Nowotny in view of JP 405311385 to Yomo et al. (*Id.* at 8)

Regarding independent claim 1, the Office Action acknowledged that Oota does not disclose "a rotator rotating [a] laser-processing head around [a] central axial line of [a] valve seat portion such that the laser-processing head is inclined with respect to [a] generally vertical line," as recited in claim 1. Office Action, page 2. The Office Action,

however, relied on Lewis for its alleged disclosure of the above-quoted feature missing from Oota. *Id.* at 3. The Office Action further asserted that “[i]t would have been obvious . . . to modify Oota et al. [to include] a rotator rotating [a] laser-processing head around [a] central axial line of [a] valve seat portion such that [the] laser-processing head is inclined with respect to [a] generally vertical line . . . as taught by Lewis, for the purpose of having more mobility and control with respect to the workpiece.” *Id.*

Applicant respectfully disagrees for at least the following reasons.

Contrary to the Office’s allegation, Lewis neither discloses nor suggests the rotator recited in claim 1. For instance, the embodiment shown in Fig. 1 of Lewis (as relied on by the Office Action) depicts the following features:

Article 3 . . . may be rotated about a vertical axis of the article by means of rotary table 5. Deposition head 1 is mounted on arm 23 and is capable of rotation about a horizontal shaft depicted by reference number 24. The deposition head is comprised of delivery nozzle 41 and optics package 40. Arm 23 is attached to positioner 22, which is capable of movement up and down along post 21. Post 21 is capable of rotation about its vertical axis. (This rotation feature is not incorporated in the apparatus whose use is described herein.)

Lewis, col. 7, lines 3-19. In this arrangement shown in Fig. 1, Lewis neither discloses nor suggests any structural element rotating its deposition head 1 around a central axial line of article 3 (purportedly corresponding to the claimed valve seat portion). The Office Action asserted that post 21 corresponds to the claimed rotator. Office Action at 3. This assertion is incorrect, because post 21 does not rotate deposition head 1 around a central axial line of article 3, but rotates around its own vertical axis.

Furthermore, even if Lewis or any other prior art reference were to hypothetically disclose a rotator as recited in claim 1, it would be improper to combine such a

reference with Oota. See M.P.E.P. § 2145 (X)(D)(2) (references cannot be combined when reference teaches away from their combination). If a proposed modification or combination of the prior art would change the principle of operation of the prior art device being modified, then the teachings of the references are insufficient to establish *prima facie* case of obviousness. M.P.E.P. § 2143.01(VI) (citing *In re Ratti*, 270 F.2d 810 (CCPA 1959)). Further, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. M.P.E.P. § 2141.02(VI).

Applicant previously argued that modifying Oota to incorporate a rotator rotating a laser-processing head, as claimed, would change the principle of operation and would be contrary to Oota's teachings of having a fixed laser beam to provide uniform and precise laser-cladding processing. See Reply to Office Action filed March 4, 2010, page 4, lines 3-14. Applicant also argued that Oota also teaches away from a prior art apparatus disclosing rotating mirrors rotating a laser beam. *Id.* at page 4, line 15- page 5, line 2.

In response, the Office Action found the Applicant's arguments persuasive. See Office Action, page 9, lines 8-10. Also, during the interview held on February 23, 2010, the Examiner and the Supervisory Patent Examiner acknowledged that Oota "teaches away from [rotating] a laser beam by a rotator." See Interview Summary mailed March 1, 2010 (emphasis added).

For at least the reasons set forth above and also previously presented for the improper combination of Nowotny with Oota, it also would be improper to combine Lewis with Oota in the manner proposed by the Office Action to arrive at the claimed

invention, even if Lewis hypothetically were to disclose a rotator as recited in claim 1. Further, none of the other cited references overcomes the deficiencies from the proposed combination of Oota, Lewis, and Nowotny.

Accordingly, independent claim 1 should be allowable over the cited references. Claims 2-5 depend from claim 1, and incorporate all of the features of claim 1. Claims 2-5 also should be allowable for reasons at least the same as those set forth for claim 1.

Independent method claim 6 recites features that are substantially similar to the above-discussed features of claim 1. Claim 6, and its dependent claims 7-12, should be allowable for reasons at least similar to those explained above for claim 1.

In light of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application, withdrawal of all of the pending rejections, and timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By: /Anthony M. Gutowski/  
Anthony M. Gutowski  
Reg. No. 38,742  
(202) 408-4000